DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-004159
Date Inspected: 15-Oct-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 2200
OSM Departure Time: 700
Location: Muroran, Japan

CWI Name: Pan Han

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower, Deviation and Jacking Saddles

Summary of Items Observed:

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector observed the scheduled Partial Joint Penetration (PJP) groove welding of the structural steel grillage to the casting, QC inspection and the verification of the Alternating Current (AC) and the Direct Current (DC) welding parameters on the structural steel plate components for the West Deviation Saddle identified as W2E1. The welding was performed on the rib to rib connections identified as E1Y-12U, E1Y-14U, E1Y-15U, E1Y-16U and E1Y-17U-2. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel Kawakami Takao ID 08-5079, Masafumi Nakagawa ID 92-2439, Yamashita Masao ID 73-4195 and Kubota Mamoru ID 74-3666.

The Shielded Metal Arc Welding (SMAW) and the gas-shielded Flux Cored Arc Welding (FCAW-G) process were utilized as per the Welding Procedure Specification (WPS) SJ-3011-6 which was also used by the QC inspector as a reference during verification of the welding parameters. The welding was also performed utilizing the Distortion Control Plan, identified as Document Number SJ-3109 Revision 4 Attachments 7 and 8 Step 1 and 2. The welding was performed in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal and the vertical (3G) position with the work in the vertical plane with the weld axis vertical.

The consumable utilized appeared to be a Hobart Brothers Product and the trade name was identified as Hoballoy

9018-M for the SMAW process which appeared to comply with the AWS Specification A5.5 and the AWS Classification E9018-M-H4R. The size of the electrode utilized was 4.8 mm in diameter.
The consumable utilized for the FCAW-G process also appeared to be a Hobart Brothers Product and the trade name was identified as TM 95K2 which appeared to comply with the AWS Specification A5.29 and the AWS Classification E90T5-K2C H4. The size of the electrode was 1.6 mm in diameter.

The Quality Control (QC) inspection was performed by Intertek Testing Services (ITS) personnel Pan Han who performed the verification the preheat temperatures, welding parameters and the in process weld inspection during this shift. The welding parameters were verified utilizing a Hioki 3109 Clamp Meter, Model RMS and the surfaces temperatures were verified utilizing an Anritsu HA 100E digital surface thermometer during the QC verification.

Later in the shift this QA inspector observed, at random intervals, the QC inspector performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the surface temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Pan Han appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

See Weld Joints in Progress Inspected on page 3 of this report in regards to QA observation of the welding parameters recorded during this shift on this date.

The following digital photographs illustrate the observations of the activities performed on this date.

WELDING INSPECTION REPORT

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Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	E1Y-12U	SJ-3011-6	Pan Han	335 DC	35 DC	258mm/m	185 Degrees C.	Yamashita
2	E1Y-14U	SJ-3011-6	Pan Han	330 DC	36 DC	261mm/m	190 Degrees C.	Nakagawa
3	E1Y-15U	SJ-3011-6	Pan Han	260 AC	23.5 AC	114mm/m	170 Degrees C.	Kawakami
4	E1Y-17U-2	SJ-3011-6	Pan Han	269 AC	24 AC	200mm/m	180 Degrees C.	Kubota

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer